



Transportation Synthesis Report

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Performance Measures for DOT Business Functions

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**Bureau of Business Services
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Transportation Synthesis Reports (TSRs) are brief summaries of currently available information on topics of interest to WisDOT staff. Online and print sources include NCHRP and other TRB programs, AASHTO, the research and practices of other state DOTs, and related research and news. Internet hyperlinks in TSRs are active at the time of publication, but changes on the host server can make them obsolete.

Request for Report

Performance measures are becoming increasingly important for management of today's organizations in both the private and public sector. They enable tracking of progress towards goals as well as evaluation of strategies, resources and results. The RD&T Program was asked to review current best practices in the use of performance measures, particularly related to the business functions of state departments of transportation.

Summary

We located a number of valuable resources on the use of performance measures for or applicable to state DOTs.

- **Florida** – The *Florida Department of Transportation 2004-2005 Short Range Component and Annual Performance Report* shows the connections between annual measurement and long-range goals.
- **Tennessee** – *Best Practices in Transportation Department Performance Measurement Structures*, Tennessee's survey and synthesis of state DOT and other agency efforts, identifies 25 trends.
- **Washington State** – WSDOT's innovative performance measurement resources and tools include the Performance Measures Library, the annual "Measure, Markers, and Mileposts" performance measurement report, and an annual review of best practices by other state DOTs.
- **Oregon** – Six core Oregon Principles are the basis for state performance measures.
- **Arizona** – The Office of Strategic Planning and Budgeting features a comprehensive on-line, guide to results-oriented management.
- **TRB Conference** – Proceedings from this 2000 Conference on Performance Measures to Improve Transportation Systems and Agency Operations includes lessons learned, the customer perspective, and technical issues involving data, number and type of measures, and trade-off analysis.
- **Government Accounting Standards Board** – Provides an online survey of the best performance measurement initiatives in various levels of state government, including two transportation agencies (Florida and Maine).
- **FHWA Information Exchange** – An online hub to discuss performance measurement issues.
- **Cambridge Systematics Peer Exchange** – Participants from 11 states discussed performance measurement.
- **National Governors Association** – The Managing for Results pages of the NGA Web site showcase state management approaches that lead to optimal performance, including significant discussion and links to key performance measurement efforts.
- **NCHRP Project 20-60 (in progress)** - Performance Measures and Targets for Transportation Asset Management.

Florida

Florida Department of Transportation 2004-2005 Short Range Component and Annual Performance Report

<http://www.dot.state.fl.us/planning/policy/pdfs/src.pdf>.

Florida is a leader in reporting interim progress towards long-range goals. This annual performance report shows the connections between annual measurement and long-range goals. It charts annual progress towards achievement of FDOT's three strategic goals:

- System preservation and efficiency
- Economic competitiveness, quality of life and safety
- Organizational excellence

The organizational excellence portion includes several business leadership goals, including statewide implementation of the DOT Business Model (goal 3.5), improving leadership (3.6) and communication effectiveness (3.8).

Tennessee

Best Practices in Transportation Department Performance Measurement Structures

<http://www.mtgmc.com/documents/Performance%20Measurement%20Best%20Practices%20Report.pdf>.

Tennessee's survey and synthesis of state DOT and other agency efforts identified 25 trends towards performance measurement. Beginning on page 7 of the PDF (document page 4), the document examines critical performance measurement trends, including:

- Business approach (determining scope and methodology)
- Data collection, analysis and reporting approach
- Performance measurement roles
- Tactical implementation
- Change management

The document also identifies 13 best practice categories and specific implementation suggestions beginning on page 18 of the PDF (document page 15). Some of the most relevant best practices include:

- Clearly delineate between strategic and operational measurement (#2)
- Promote Business-Planning Interrelationships (#4)
- Process mapping: clarifying and documenting business relationships (#8)
- Guidance on reporting activity progression (#10)

Washington State

*** Performance Measures Library**

<http://www.wsdot.wa.gov/accountability/library/default.htm>.

Washington State DOT's (WSDOT) Office of Accountability provides a comprehensive performance measurement methodology that frames the strategic decision-making of the entire organization. Their performance measurement library is a continually updated online collection of best practices in other state DOTs and other notable performance reporting by other state agencies as well as city, county and regional units of government. Several of these efforts are referenced elsewhere throughout this TSR.

*** The Gray Notebook**

<http://www.wsdot.wa.gov/accountability/graynotebook/default.htm>.

WSDOT's annual "Measure, Markers, and Mileposts" report (also known as the Gray Notebook) is its central performance measurement piece. It is both an internal management and integration tool and an external communication device. WSDOT maintains the Gray Notebook online in both full and "lite" versions, allowing for easy access and searching. Portions of the Gray Notebook applicable to this TSR include performance measures on **worker safety** (injury rates, prevention activities and collision reduction training) and **workforce and employment training**.

*** "State of the Practice" Inventory**

<http://www.wsdot.wa.gov/accountability/library/State%20Inventory%20Handout.pdf>.

Washington State also prepares an annual one-page state DOT best practices update. The most recent one available online is from March 2004.

*** Emerging Performance Measurement Responses to Changing Political Pressures at State DOTs: A Practitioners' Perspective**

<http://www.wsdot.wa.gov/accountability/library/PractitionersPerspective.pdf>.

Washington performed an analysis of how state DOTs respond to internal and external mandates for evaluating performance. It documents the broadening of performance measurement from an internal tracking tool to now encompass organizational accountability and transparency. Highlights of their research include:

- Drivers for change and best response strategies
- Discussion of the maturation cycle of state DOT performance measurement efforts:
 1. “Traditional” Infrastructure and Organizational Measurement
 2. Hierarchy of Measurement
 3. Catalyst-driven Adaptation
- Strategies for communicating performance standards and progress
- Before and after system analysis
- Using performance standards for private contracts

Oregon

*** Oregon Benchmarks**

<http://egov.oregon.gov/DAS/OPB/obm.shtml>.

Oregon Benchmarks measure progress towards the state’s comprehensive strategic vision “Oregon Shines.” When Oregon had to make budget cuts, they eschewed the typical pattern of starting with the “current service level” budget. Rather, “the Governor identified six core Oregon Principles that are the foundation for a prosperous future and that guided his decisions about where to invest.” The benchmarks Web site provides links to a wide variety of performance measurement material, including the comprehensive Benchmark Performance Report, and a forthcoming searchable index of the benchmarks.

*** Annual Performance Progress Reports FY04**

<http://www.oregon.gov/DAS/OPB/APPR04.shtml>;

http://www.oregon.gov/DAS/OPB/docs/apr/AdminSrvs_LDSR.doc.

The first link is an index to over 50 performance reports containing benchmark information for all of Oregon’s state government agencies and commissions. They follow a consistent format that directly links agency goals to statewide Oregon Benchmarks or High-Level Outcomes. The format also assigns a lead division or unit to whom responsibility for implementation falls.

The Department of Administrative Services provides the most pertinent examples of goals for bureau-level performance measurement, with goals that include:

- Minimize state claims (goal #17), as measured by number of workers’ compensation, liability and property claims
- Minimize the dollar value of those claims (#18)
- Provide quality facilities to state agencies at a competitive rate (#5)

Reports from other Oregon agencies may also provide additional ideas for further performance measures. While the progress report from ODOT is system-intensive, it does provide insight into the decision-making framework in which DOT-level performance measurement occurs.

Arizona

Office of Strategic Planning and Budgeting - Managing for Results

<http://www.ospb.state.az.us/handbook.htm>;

<http://www.ospb.state.az.us/pdf/SectionE.pdf>;

<http://www.ospb.state.az.us/pdf/SectionG.pdf>.

Arizona’s Office of Strategic Planning and Budgeting provides a comprehensive on-line, guide to results-oriented management. It outlines the strategic planning process, a key component of which is measuring performance.

Section E is a guide to performance measurement, with steps that include:

- Principles and categories of measurement (input, output, outcome, efficiency, quality)
- How to select the best performance measures
- How to use performance measurement to create accountability
- Benchmarking strategies
- Review and refinement of measures

Section G describes how to establish a tracking system, monitor your performance, and report the results both internally and externally. Overall, Arizona’s efforts function largely as a “working outline” for how to establish a strategic plan -- something broad enough to apply to various levels of government for which there is sufficient commitment to the strategic planning and performance measurement process.

TRB Performance Measures to Improve Transportation Systems and Agency Operations: Conference Proceedings 26

http://gulliver.trb.org/publications/conf/reports/cp_26.pdf.

In 2000, TRB brought together a wide range of government, academic and business leaders to discuss performance-based planning and programming. The results of the conference proceedings include:

- Implementation approaches, including the connection between performance measures and decision making
- Lessons learned and implementation guidelines
- System performance from a customer perspective
- Including multimodal measures in the planning process and system performance assessment
- Technical issues involving data, number and type of measures, and trade-off analysis

From page 26 of the PDF (document page 18) -- The use of performance measures to influence agency decisions, particularly policy and resource allocation decisions, involves much more than the measures themselves, although picking the “right” measures is a key element. This systematic, ongoing process (referred to as performance-based planning) must be integrated into an agency’s ongoing planning, management and decision-making processes. Figure 1 depicts a typical transportation planning process and illustrates how these steps fit into it to create a modified performance-based planning process:

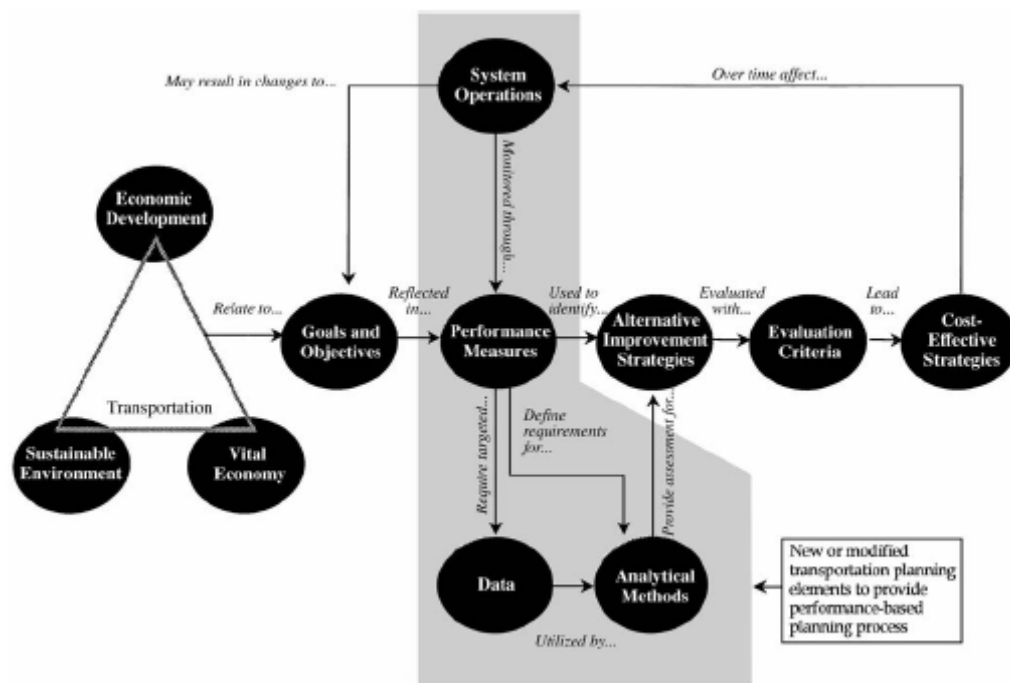


FIGURE 1 Elements of performance-based planning process (Cambridge Systematics, Inc., 2000).

Government Accounting Standards Board Performance Measurement for Government

http://www.seagov.org/initiatives/state_gov.shtml.

The GASB provides an online survey of the best performance measurement initiatives in various levels of state government, including two transportation agencies (Florida and Maine). It provides links to various strategic planning, milestone measurement, public accountability and other tools. Best examples from this document include:

- Transportation System
http://www.seagov.org/initiatives/resources_by_service_area.shtml.

Federal and state governments provide a variety of performance measurement resources for state transportation agencies. While much of the research and documentation is related to the transportation system, the online resources include a variety of forums, best practice reports and other syntheses of completed and in progress research.

- Case Studies
http://www.seagov.org/sea_gasb_project/case_studies.shtml.

In 1999, researchers visited 26 state and local governments to determine the depth and breadth of actual use of performance measures by these governments for budgeting, management and reporting; the effect of their use; and the extent to which governments are ensuring the relevance and reliability of performance measures. The Wisconsin study may be viewed at http://www.seagov.org/sea_gasb_project/state_wi.pdf.

Federal Highway Administration

TRB Performance Measurement Exchange

<http://knowledge.fhwa.dot.gov/cops/pm.nsf/home>.

FHWA provides an online hub for transportation professionals to exchange information and ideas regarding a wide variety of performance measurement issues. Group discussion areas include:

- System Performance Measurement
- Organizational Performance Measures
- Measurement Tools, Techniques, Methodologies and Data
- Customer Satisfaction Measures

The exchange is referenced at TRB's Performance Measurement Committee Web site, which houses several useful presentations from past annual meetings and performance measurement conferences:

<http://www.trb-performancemeasurement.org/>.

Cambridge Systematics

TRB Statewide Transportation Data – Peer Exchange Meeting

<http://webservices.camsys.com/trbcomm/peerex08-25-2000.htm>.

In 2000, Cambridge Systematics hosted a peer exchange discussing various performance measurement strategies in 11 states. Key aspects of performance measurement discussed at this forum include data management and integration, measurement categories (mobility, safety pavement, etc.), and outcome areas and their relationship to decision making. A number of major issues surfaced during the workshop including:

- Customer Perspectives. After several years of discussion and debate over the merit of "output" vs. "outcome" measures, agencies seem to be settling on a blend of the two, balancing the customers' expectation for outcome-related performance information with the agency's need for useful output data that has meaning to managers and decision-makers.
- Use of Performance Measures. Several DOTs with significant experience in application of performance measures are moving toward true multimodal applications, which creates added challenges to data collection and maintenance, since different owners and operators are involved than just the state DOT.

A quick scan of these minutes and specific topic areas should provide launching points for additional research and discussion.

National Governors Association (home page)

<http://www.nga.org/nga/1,1169,,00.html>.

Managing for Results:

(Alabama – Louisiana)

http://www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF^D_4096,00.html

(Maine – North Dakota)

http://www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF^D_4099,00.html

(Ohio – Wyoming)

http://www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF%5ED_4100,00.html

The National Governor's Association Web site is an online hub of state government best practices. The three links provide a state-by-state briefing of management leading to optimal performance, including significant discussion and links to key performance measurement efforts. Some of these efforts are described elsewhere in this TSR; others of particular interest include:

The New Hampshire DOT Bureau of Turnpikes implemented performance based budgeting on July 1, 1999, as part of a two-year pilot program authorized by the legislature in 1998. The pilot was extended through June 30, 2003. Measurements of performance are reported quarterly in these three sectors-

- Debt Service -- Measuring compliance with revenue bond covenants (timely repayment of debt, sufficient collection of toll revenue to cover payment of debt service and renewal and replacement expenditures)

- Renewal And Replacement -- Measuring condition of roadway (Federal Highway Administration International Ride Index, Rut Rating Index, Pavement Serviceability Rating), and number of bridges in good condition (bridges not red-listed)
- Operations and Maintenance -- Measuring efficiency of operations: operating cost per toll dollar collected and maintenance cost per lane mile

The department is developing an advanced maintenance management system that will provide additional measurement tools to assist the budgeting and management process. It is also pursuing the development of a customer service questionnaire to measure customer satisfaction using the University of New Hampshire as a resource.

Performance Measures and Targets for Transportation Asset Management (In Progress)

<http://www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+20-60>.

This NCHRP project examines performance measurement from an asset management perspective. The two main objectives of this ongoing study are to examine the suitability of various performance measurement systems, and developing a framework for selecting suitable measures. An interim report from November 2004 is available on-line; the final report is due in July 2005.